

Improvement plan:

Name of the organization:

Address:

Contact details:

Name of the trainer/representative:

Sl no	Elements of PSUC improvement plan(draft)
1	Improvement of Facility :
	Proper labeling of chemical bags & containers(areas)
	Organize chemical store with safety signs & instructions
	Categories store space according to compatibility chart
	Installation or availability of safe chemical transferring equipment's
	Availability of proper weighing and transportation equipment's of chemical
2	Good Practice and safety culture:
	Regular housekeeping of storage floor & production floors,
	Monitoring and supervision of wearing appropriate PPEs for relevant persons
	Enabling appropriate & suitable system or procedure for record keeping of chemical related accidents and incidents
3	Capacity building
	Training of workers on safe handling of chemicals
	Training for mid management on safe use and execution of planning (ToT and others)
	Conduct periodic trainings (peer to peer) in factory in house for workers focusing on SDS and GHS signs (safe use of chemical issues)
4	Engagement of top management for strategic planning:
	Influence management and organizational policy makers on adaptation of safe chemical management
	Monitoring and process evaluation of activities by management
	Formulation and implementation of a organizational policy regarding safe use of chemicals
	Form an internal management team for safe use of chemicals (or else.)

Improvement plan :

Target or activity detail	Implementation strategy of PSUC	Time frame (January 2022 –December 2022)				
		Preparation'20	Q1-22	Q2-22	Q3-22	Q4-22
Improvement of Facility	Consultation and technical assistance					
Promoting (good) safe practice and safety culture:	Policy support and stakeholders engagement					
Capacity building mechanism	ToT (peer to peer), training and awareness sessions					
Engagement of top management for strategic planning:	Technical assistance and implementation support (advocacy and policy influence)					

Drafted by :

Authorized by:

Name of the organization:	
Address:	
Contact:	
Email:	

Chemical Safety Policy:

POLICY BRIEF & PURPOSE:

This policy aims to establish a safer chemicals management procedure in the organization to improve in occupational health safety for the workers towards transforming the industry towards safer operations. Our Safe chemical use and handling policy help us preserve the best possible work conditions for our employees. Every employee has a right to feel safe at work. Our company is committed to follow safe chemical use and handling standards to establish a chemical related hazard-free workplace.

SCOPE OF THE POLICY:

This safe chemical use and handling policy applies to all prospective and current employees of the company as well as workers, supervisors, contractors and management team members.

EMERGENCY PREPAREDNESS:

- Chemical storage and related areas are well protected and restricted.
- Organization will plan to ensure and maintain functional smoke alarms and sprinklers that are regularly inspected [gradually]
- Technical experts and store keepers are well-known with the SDS and appropriate emergency measures of each chemicals
- Ensure easier and safe chemical handling and transportation tools (i,e appropriate trolley, fork lifts or other equipment's)
- Ensure available split kit, spill response preparations at the chemical store and production areas.
- All the chemicals are stored, marked and categorized as per standards.
- Fire extinguishers and other fire protection equipment that are easily accessible and workers need to be trained on evacuation plan
- An evacuation plan posted on the walls of each floor and need to be well communicated with all floor level employees.
- Fully-stocked first-aid kits are need to ensure at visible, accessible and convenient locations.

POLICY PRIORITIES:

- If employees will work in dangerous contexts (chemical use, handling and transportation) or production areas, organization will make sure there are using appropriate safety precautions (PPEs).
- Organization will provide protective gear like gloves, protective uniforms, goggles etc. Using safety equipment is obligatory at the work place (production and chemical storage areas).
- Safety management responsible employee will inspect equipment and infrastructure regularly
- Organization will develop and execute yearly training plan for employees regarding health & safety standards and procedures for new entrance and existing employees.
- Exposure to chemicals and radiation will not exceed a certain time or hazard limit
- Organization will maintain proper recording system for accidental or incidental cases regarding chemical handling and use.

POLICY REVIEW AND EXECUTION:

Organization will also keep abreast of changes and try to promote health & safety actively.

Management team will:

- Update organization policy according to changes in occupational health and safety legislation.
- Use incentive actions for health & safety (e.g. presenting safe employee awards.) monthly.
- Analyze past incidents to form an updated corrective action plan and execution framework to meet standards.
- Review and establish clear procedures for accident reporting yearly basis.
- Form a safety management committee and engage one responsible representative for training, supervision, monitor and reporting of related issues.

COMPANY COMMITMENT:

Every team supervisor/ leader is responsible for implementing this chemical safety policy. Employees should follow health and safety instructions and will be held accountable when they don't. Management will take disciplinary action that may extend to termination when employees consistently disregard health and safety rules.

“It’s everyone’s responsibility to contribute to a healthy and safe workplace”

Developed by (with date):	Authorized by(with date):	Approved by(with date):

Name of the organization:	
Address:	
Contact:	
Email:	

Safe Chemical management committee:

Target and goal of the committee:

- To develop and maintain a safety culture within the organization
- To ensure improvement of workplace environment and safety condition for all level staffs
- Facilitate capacity building of workers and managements personnel's
- Create overall motivation for management level to sustain safe chemical handling/ use standards
- Ensure regular update of recording chemical related accidents/ incidents to minimize economic and health related risk
- Formulate and Adapt corrective measures to minimize incidents with proper management coordination.

Structure and responsibility:

Sl number	Name of the position	Responsibility
01	President (GM level)	
02	Secretary (HR& admin manager/ Production Manager/Chief technologist/Compliance manager)	
03	Member (line supervisor/ officer-store)	
	Member(line supervisor/ officer-production floor)	
	Member(line supervisor/ officer-procurement)	
	Member(general workers representative/union representative)	

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Safe chemical storage guideline :

General storage requirements:

- Chemical stores need to be separated from production or R&D area
- Need to have sufficient source of light and air flow system
- Floor of the store is to be flat and suitable for transportation and handling of chemicals.
- Each area of the stored should be properly marked with suitable colors (green-red) following compatibility chart.
- Ensure proper and safer chemical handling, measuring and transferring equipment's availability.
- Emergency washing (hands and face) facilities should be available at the facility.
- Emergency plan and chemical store layout (i.e, Eco mapping) need to be available and proper visualized at factory.
- Enough number of suitable (category A-D) fire extinguishers and measure (water & sand) need to be available.
- Ensure availability of first aid box and safety signs at the store.
- Availability of SDS and PPEs storage need to be assured.
- Every chemicals need to be identified with labelled (in appropriate language) with major safety cautions.
- Need to ensure the restricted access and capacitate all related staffs on chemical safety uses.
- Recording of all incidents and accidents at the store will be updated regular basis and addressed with proper corrective measures.

Storage shelve/area arrangements:

- **Solid/powder chemicals:**
 1. Solid or Powder chemical bags need to be stored in a spate space from liquid chemicals and sources.
 2. Bags need to be stored on a platform (wooden is preferred) ,not directly on the floor.
 3. The pallet height of the bags not to be higher than 7 feet.
- **Liquid chemicals**
 1. Liquid chemicals should be stored in a well-marked and separated area of stores with facility of secondary containments (leach proof).
 2. Availability of washing facility of the space is essential with proper water drainage system.
 3. Need special and suitable equipment's for chemical transferring from drums or transportation of drums.

Separated storage of hazardous chemicals: Hazardous chemicals should be stored separately (would be better to have separate space) by identifying following general categories:

- Flammable liquid and gas
- Toxic
- Corrosive
- Fume generative (creates toxic fumes)
- Oxidizing
- Explosives
- Unstable

List of Hazardous and non-hazardous chemicals:






























Hazardous waste: Is defined as in ECA 95 and/or international conventions, based on risks posed by it to human health and/ or environment. The list of such waste can include, but is not limited to the following:











- Used chemical drums and containers
- Residual chemical waste from padding mangles, print pastes
- Film and printing frame
- Expired/ unused chemicals
- Compressed gas cylinders (refrigerants, Argon gas, LPG cylinders, etc.)
- Contaminated materials (oily rags)
- Decommissioned equipment (contaminated parts, electronic waste)
- Batteries
- Fluorescent light bulb
- Ink cartridges
- Waste oil and grease (from cooking or boilers)
- Electronic waste
- Combustion residuals (fly ash and bottom ash/coal slag)

Non-hazardous waste: Is the type of waste that does not pose any risk to human health and environment. The list of such waste can include, but is not limited to the following:

- Materials (fabric waste)
- Rubber
- Metals
- Plastic
- Paper/Cardboard
- Glass
- Domestic wastes (food, yard waste)

Compatibility chart:

Chemical Hazard Always refer to the SDS	Flammable 	Acid 	Base 	Oxidizer 	Toxic 
Flammable 					
Acid 					
Base 					
Oxidizer 					
Toxic 					

								
Flammable liquids	Acids	Bases	Oxidizers	Toxics	Compressed gases	Poison inhalation	Water reactive	Liquid nitrogen
<p>Do not store with acids or oxidizers</p> <p>Only store in refrigerators rated for flammables</p> <p>Keep quantities to a minimum (no 5 gallon cans permitted)</p> <p>Amounts over two(2) gallons: Store in an approved flammable cabinet</p>	<p>Do not store with bases, flammables, or cyanides</p> <p>Do not store under the sink</p>	<p>Do not store with acids</p> <p>May be kept with flammable liquids if in secondary containment</p>	<p>Do not store with flammable liquids or solids</p> <p>Do not store under the sink</p> <p>Avoid storage on wooden shelves</p>	 <p>And other Health Hazards</p> <p>Store on sturdy shelves below eye level or in secured cabinets</p> <p>Store separate from other hazard classes</p>	<p>Secure at all times even when empty</p> <p>Store away from heat sources</p> <p>Store with cap when regulator is removed</p> <p>Incompatible gases must be separated by a 30 minute fire barrier or 20 feet or line of sight</p>	<p>Store in a vented gas cabinet or a chemical fume hood</p> <p>Secure at all times</p> <p>Store with cap or plug in place</p>	<p>Do not store under the sink</p> <p>Store away from aqueous solutions</p> <p>Keep separate from other hazard classes</p>	<p>Store in a well ventilated area</p> <p>Consult EHS before storing 240L tanks</p>
<p>Examples</p> <p>Acetone Methanol Ether Hexane</p>	<p>Examples</p> <p>Sulfuric acid Hydrochloric acid Nitric acid Acetic acid</p>	<p>Examples</p> <p>Sodium hydroxide Potassium hydroxide Bleach</p>	<p>Examples</p> <p>Silver nitrate Ammonium persulfate Sodium periodate</p>	<p>Examples</p> <p>Sodium cyanide Sodium azide Aniline Ethidium bromide</p>	<p>Examples</p> <p>Helium Nitrogen Oxygen Hydrogen</p>	<p>Examples</p> <p>Carbon monoxide Chlorine gas Ethylene oxide Ammonia gas</p>	<p>Examples</p> <p>Sodium borohydride Hydrazine Sodium metal Phosphorus</p>	<p>Example</p> <p>LN</p>
<p>Special circumstances</p> <p>Combustible liquids (i.e. toluene) can be stored in the flammable cabinet if there is room.</p>	<p>Special circumstances</p> <p>Some acids are flammable (i.e. Acetic acid) but still store them with the acids.</p>	<p>Special circumstances</p> <p>Some bases are flammable (i.e. ethanol amine) but still store them with the bases.</p>	<p>Special circumstances</p> <p>Some acids are oxidizers (i.e. nitric acid) but still store them with the acids.</p>	<p>Special circumstances</p> <p>Inspect containers regularly.</p>	<p>Special circumstances</p> <p>Container volumes less than 5 liters (i.e. lecture bottles) can be stored lying down.</p>	<p>Special circumstances</p> <p>Consult with EHS when storing or using these materials.</p>	<p>Special circumstances</p> <p>There may be enough moisture in the air to react these materials. Use caution.</p>	<p>Special circumstances</p> <p>Liquid nitrogen tanks vent loudly periodically. Do not be concerned.</p>

Source: <https://ehs.virginia.edu/Chemical-Safety-Storage.html>

Storage and management of hazardous waste:

- After end of the use all packaging's need to be stored at a separate place by collecting from stores and productions floors.
- All sorts of chemical waste (both liquid and solid) need to be washed immediately following any incidents with proper drainage system to ETP.
- All bags, packaging's and containers need to be disposed at the right dumping zone or handed over to nominated vendors (with written arrangements)